HQB
headquartersbulletin
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September 2002

Shuttle Fleet Set To Return To Flight the First Week of October

Maintaining the unwavering pledge "Safety remains NASA's number one priority," the Agency is preparing to resume Space Shuttle launches in the first week of October. After weeks of analyzing and fixing problems found in the Shuttle orbiters and one of the launch platform Crawler Transporters, ground crews have addressed the minute cracks found in the Shuttles' fuel-flow liners and cracked bearings discovered in one of the Crawler Transporters.

The fuel-flow liner cracks were first noticed during visual inspections performed before installation of the main engines into the Space Shuttle *Atlantis*. A technician noted a visible crack in a metal liner inside the orbiter's propellant lines. These liners inside the Space Shuttle's main propulsion system maintain the balance of liquid hydrogen and oxygen flow into the engines during launch. More sophisticated inspection techniques found two additional cracks in the same liner. Similar inspections were then performed on the other orbiters with similar observations.

Over the past several weeks, the Space Shuttle Program has extensively investigated the cause of these cracks. Engineers determined the cracks are most likely caused by "high cycle fatigue," a phenomenon attributed to a combination of vibration, thermal, and acoustic conditions experienced during engine operation. Welding and polishing procedures will restore the flow liner to design specification.

During preventive maintenance of a Crawler Transporter in early August 2002, technicians found cracked bearings on the Jacking, Equalization, and Leveling (JEL) cylinders. The JEL system is part of the mechanism that keeps the Space Shuttle level as it moves along the crawlerway and up the ramp at the launch pad. All bearings on Crawler Transporter #2 will be removed, examined, and replaced as necessary prior to its use to take STS-112 to the pad. The Crawler Transporters have provided reliable transportation for the Space Shuttle and Apollo programs for 37 years.

In addressing these activities and the positive developments that are progressing as we resume Shuttle flights, Headquarters Space Shuttle Manager Parker Counts conveyed a simple yet powerful message to the aerospace community, "Commitment to safety is why we interrupt operations."

Upcoming Space Shuttle missions will deliver a truss structure to the International Space Station, replace the current station crew, and perform a wide variety of experiments for a dedicated research mission.

"Commitment to safety is why we interrupt operations," said HQ Space Shuttle Manager Parker Counts.

inside:

Around the Centers . . .

Ames Research Center
In collaboration with the National Hispanic University and Integrated Space Technologies, NASA Ames Research Center is sponsoring a workshop for 16 California teachers. These elementary school teachers from disadvantaged and largely migrant-populated schools will attend the week-long workshop to learn about the educational materials available from NASA. The workshop will expose teachers to NASA's educational products and services and offer suggestions to incorporate the resources into their State-mandated math/science curriculum in an effort to enrich their local classes.

Dryden Flight Research Center
A breakthrough in telecommunications technology recently occurred at an altitude of 65,000 feet. High-quality television signals, third-generation cell phone transmissions, and an Internet linkage were successfully relayed through a remotely operated aircraft. During three demonstration flights, AeroVironment's Pathfinder-Plus solar-powered flying wing successfully retransmitted an HDTV signal and relayed cellular audio and video calls while flying in the stratosphere above Hawaii. Researchers also established an Internet link after the aircraft made a descent to about 21,000 feet. Both demonstrations were sponsored and funded by a team of telecommunications researchers from the Japanese Ministry of Communications laboratories and private companies.

Glenn Research Center
At the 2002 IECEC Conference, Joe Sovie received the AIAA Aerospace Power Systems Award in recognition of a lifetime of personal contributions in the guidance and management of advanced space power research and development, including the development of a foundation for a national nuclear space power capability. The Harry Rowe Mimno Award "For Excellence in Technical Communications" was presented to Tom Kerslake and Leon Gefert for their article entitled "Solar Power System Analysis for Electric Propulsion Missions."

Goddard Space Flight Center
Twenty-four high school teams, from six States and Washington, DC, took their robots to the 121st Maryland State Fair to compete for $24,000 in prize money and trophies as part of the 2nd Annual NASA/FIRST Robotics Display and "Zone Zeal" Competition from August 31 through September 2. FIRST is a national engineering robotics competition that immerses high school students in the exciting world of engineering. The students design and build the robots, and then their robots compete with other schools' robots.

Jet Propulsion Laboratory
Forty elementary and middle school teachers learned about Mars during a JPL-led workshop where they designed, built, and remotely controlled a mini-rover on a simulated Mars terrain. These teachers will now lead workshops for other teachers in their home States. The workshop is part of an ongoing education program aimed at taking teachers and students on a ride to the red planet. The nationwide network of Mars-savvy teachers will be trained by 2004, when the rovers arrive at Mars.

Langley Research Center
Boeing Commercial Airplane Company recently presented a scale model of the Boeing 777-200 to Langley Research Center in a ceremony at the National Transonic Facility (NTF). Goals of the project included the reduction of uncertainty in ground-to-flight prediction, improved aircraft performance through understanding of high-Reynolds-number aerodynamics, and evaluation of CFD simulations of the model in the wind tunnel environment. Both Boeing and NASA's Twenty-first Century Aircraft Technology (TCAT) funded the joint project, which was enabled by a Space Act Agreement.

Marshall Space Flight Center
The Nation's top teachers recently spent a week at the U.S. Space & Rocket Center in Huntsville, AL. The teachers experienced training on how to live and work in space. Chauncey Veatch, the National Teacher of the Year, and other honorees were recognized for their dedication to their profession. During the week, teachers participated in a number of events designed to spark their interest in the Nation's space program.

Stennis Space Center
Barry Robinson never doubted that he would work for NASA. He just never imagined that it would be in Mississippi or lead him to become one of the first black test conductors at Stennis. In 1988, Robinson interviewed with Rocketdyne's Division of Rockwell International at Stennis. "I was shocked to learn there was a NASA facility in Mississippi," Robinson said. "I took one look at the Space Shuttle Main Engine and accepted the job on the spot." Six years later, Robinson joined NASA as an aerospace technician in mechanical experimental equipment, and now, Robinson passes on his knowledge to others as the chief of the Mechanical Test Operations Branch.

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***HQ Bulletin* Submission Deadline**
Articles must be submitted by close of business Tuesday, September 17, to be considered for the October 2002 edition of the *HQ Bulletin*. For the publication schedule, see *www.hq.nasa.gov/hq/infocom/bullsched.htm*

Honoring the Past by Protecting the Future

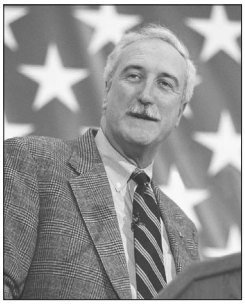


Photo credit: NASA/Renee Bouchard

With a heavy heart and resolve to heal our nation, Americans from all walks of life will soon observe the one-year anniversary of the worst terrorist attacks in U.S. history.

Last September 11, our nation experienced a heartbreaking attack on our values, beliefs, and our way of life. Americans have found the courage to continue to live and work, with the understanding that only patience and determination will keep our country strong.

As Federal employees, your service shows compassion, respect, and love for a nation that supports freedom above everything else. In fact, the men and women of NASA responded to the tragedy within hours of the terrorist attacks. NASA employees around the nation donated blood. In a matter of days, the Agency supplied a sensor-equipped airplane to monitor air quality and hot spots at Ground Zero and provided crucial satellite imagery to help officials determine health risks for the surrounding metropolitan area.

One year later, NASA continues our commitment to help our country respond to the complex challenges of the post-September 11 environment. NASA scientists are striving to develop technologies to help prevent civilian aircraft from being used as guided weapons, and to develop aircraft that are strong enough to withstand explosion damage and land safely. We're also working to protect airplane computers from sabotage and to produce self-extinguishing fuels that will reduce the consequences of future accidents.

The nation is counting on NASA to develop technologies that are vital to public safety and to forge ahead with pioneering exploration missions that reflect our country's unwavering courage.

Gregory Sworn in As NASA Deputy Administrator

Photo credit: NASA/Renee Bouchard

NASA Administrator Sean O'Keefe presided over the swearing-in ceremony of Fred Gregory, as NASA's first African-American Deputy Administrator, on Friday, August 30, 2002. Gregory and his wife Barbara participated in the ceremony at NASA Headquarters, as friends, family and fellow NASA employees looked on.

The Deputy Administrator position has been vacant for more than a decade, and in his new role, Gregory will serve as the chief operating officer for the Agency and report directly to Administrator O'Keefe. He will be responsible for directing and managing many of the programs as well as the day-to-day operations and activities at NASA.

Jeff M. Bingham

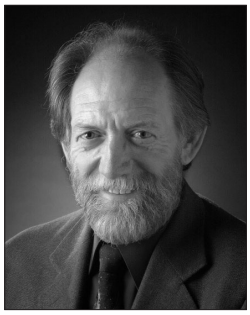


Photo credit: NASA/Bill Ingalls

Bingham

Title: Senior Advisor to the Administrator for Policy and History.

Describe your current position: I provide counsel to the Administrator and NASA senior staff regarding the development, adoption, dissemination, and implementation of a broad range of policies, as well as preparing the documentation to tell the "policy history" of the space station program.

Career history: From October 1972 to November 1974, I served as Assistant to the Mayor of Salt Lake City, Utah. Then, I spent 17 years as Chief of Staff to former U.S. Senator Jake Garn of Utah, where my position led to my first involvement with NASA. The Senator served as the Chairman of NASA's appropriations subcommittee, and I was fortunate enough to help prepare the Senator for his flight on the Space Shuttle in 1985.

I first joined NASA as a consultant on the Synthesis Group. After completing the Group's report, I became a Senior Policy Analyst for a science corporation, and eventually, I returned to NASA to serve as the lead coordinator of NASA's Space Station Program and War Room in the Office of Legislative Affairs.

Later, I asked to be assigned the task of preparing a manuscript for publication under the NASA History Series. I began an extensive effort to document and organize the history of the space station until December 2001, when I provided support to the Bush-Cheney Transition Team.

I served as Assistant Administrator for Legislative Affairs until Administrator O'Keefe asked me to serve in my current position in May 2002. Now, I am feverishly working to gather the history material and update the manuscript to the present.

Describe your family: I have three great young people I'm proud to call "my kids." My oldest son, Brook, lives with his wife, Shauna, in Salt Lake City. His profession is the medical personnel business. My daughter, Blaire, lives in Fairfax, Virginia. She travels frequently and will be a junior at the College of William and Mary this fall. My youngest son, Ryan, lives in Wisconsin. He's an athletic 13-year-old who plays basketball and football and helps his mom with her collection of horses.

Activities/Hobbies: My principal "hobby" is a combination of digital photography and computer graphics. I enjoy the out-of-doors and like to hike into areas where there is good picture-taking landscape. I enjoy camping and winter skiing.

NASA Has Good Showing at NMA Convention

Dr. David Satcher, former U.S. Surgeon General, and Dr. Dorothy I. Height, Chair and President Emerita of the National Council of Negro Women, pictured in the center, pose with the 2002 Award Winners and Astronaut Yvonne Cagle at the National Medical Association's Opening and Awards Ceremony.

In an effort to collaborate and foster partnerships with diverse communities, NASA participated in the National Medical Association's (NMA) 2002 Annual Convention and Scientific Assembly in Honolulu, HI. NMA is made up of more than 25,000 African American physicians, nurses, researchers, and medical professionals. Over 3,000 decisionmakers attended this year's convention.

The Offices of Space Flight and Biological and Physical Research joined to create a unified NASA presence to educate NMA on NASA research, with special emphasis on diabetes, high blood pressure, cardiovascular health, and cancer, while challenging NMA members to join NASA in its efforts to enhance health care on Earth and in space.

Approximately 1,500 to 2,000 doctors and researchers visited the Human Exploration and Development of Space walk-through mockup of the International Space Station's Destiny Laboratory (U.S.).

NASA has been invited to participate in next year's conference, which will be held in Philadelphia, and the Agency looks forward to continuing this relationship.

Poster Designed To Inspire Future Explorers

Photo credit: NASA/Bill Ingalls Art Direction: NASA/Doug Ortiz

"To inspire the next generation of explorers…as only NASA can," is the theme of this new NASA poster featuring Astronaut Barbara Morgan talking to students at the Burrville Elementary School in Washington, DC, about the challenge of exploring space.

Barbara Morgan, friend and backup for Christa McAuliffe, will continue the dream of sending an educator into space. Morgan was selected as the backup candidate in 1985 for the Teacher in Space program. She trained side-by-side with Christa McAuliffe and the *Challenger* crew at the NASA Johnson Space Center in Houston. In 1998 Morgan was selected as NASA's first Educator Mission Specialist, and joined the astronaut corps as a full member. NASA plans to assign her to a Shuttle mission after completion of the core elements of the International Space Station in 2004.

Morgan's mission will be the first of a series of flights in the new Educator Mission Specialist Program. NASA, in partnership with Education Secretary Rod Paige, will release the details of the national recruitment program for future missions.

The posters will be distributed to schools throughout the United States. They will include information printed on the back describing the Educator Mission Specialist Program.

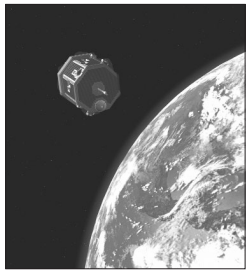
NASA Appoints CONTOUR Investigation Team

While the mission operations team continued to look for signals from the spacecraft, Administrator Sean O'Keefe announced that NASA Chief Engineer Theron Bradley will lead the CONTOUR Mission Investigation Team.

The team will look independently into all aspects of NASA's Comet Nuclear Tour (CONTOUR) mission, which has been out of contact with mission operations at the Johns Hopkins University Applied Physics Laboratory (APL) since a scheduled engine firing on August 15. The team will report its initial findings to NASA Headquarters within 6 to 8 weeks.

Three spacecraft segments, detected by ground-based telescopes, are now more than 2 million kilometers from Earth, escaping at a steady 6.1 kilometers per second (3.8 miles per second or 13,600 miles per hour). They have now traveled so far from the Sun and Earth that more observations are unlikely.

Monitoring will be scaled back to a weekly attempt until early December, when the spacecraft will come into a more favorable angle for receiving a signal from Earth.



CONTOUR, a 4-year mission, was launched from Cape Canaveral Air Force Station, FL, on July 3.

Astronaut William F. Readdy Named Associate Administrator for Space Flight

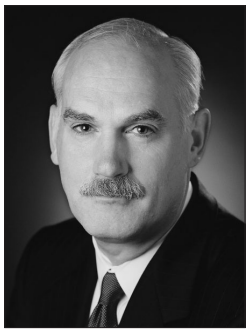


Photo credit: NASA/Bill Ingalls

Readdy

William F. Readdy, a veteran Space Shuttle commander and Navy test pilot, has been appointed Associate Administrator for Space Flight. Readdy replaces Frederick D. Gregory, who now serves as NASA Deputy Administrator.

As Associate Administrator, Readdy heads NASA's Human Exploration and Development of Space Enterprise. Previously, as Deputy Associate Administrator for Space Flight, he oversaw the Marshall Space Flight Center and Kennedy, Stennis, and Johnson Space Centers. He also managed top-level policy planning and management of the Space Shuttle, International Space Station, Space Communications, and Space Launch Vehicles programs.

Readdy is a pilot astronaut with three space flights: STS-42 in 1992, STS-51 in 1993, and STS-79 in 1996. During STS-79, Readdy was the Commander of *Atlantis,* which rendezvoused and docked with the Russian space station *Mir* and exchanged U.S. astronauts on *Mir* for the first time. He has logged more than 672 hours in space.

Readdy joined Johnson Space Center (JSC) in 1986 as a research pilot and instructor at Ellington Field. He was selected as an astronaut in 1987 and has served in a variety of NASA technical and management positions at JSC and Headquarters.

A retired Naval Reserve Captain, Readdy was a 1974 Naval Academy graduate. During his Navy career, he logged 7,000 flying hours in more than 60 types of fixed-wing aircraft and helicopters, and he has made more than 550 carrier landings.

Crouch Honored by Public Employees Roundtable

Roger K. Crouch, Senior Scientist for the International Space Station and a former NASA Payload Specialist who has logged over 471 hours in space, was honored by the Public Employees Roundtable on July 25 for his outstanding contributions to the promotion of public service. Dr. Crouch has demonstrated his dedication by tirelessly interacting with the public during Public Service Recognition Week, patiently answering questions, and signing countless autographs for students of all ages.

A native of Tennessee, Dr. Crouch is currently "on loan" to NASA from the Massachusetts Institute of Technology (MIT). He earned a bachelor of science degree in physics from Tennessee Polytechnic Institute, as well as a master of science and doctor of philosophy in physics from Virginia Polytechnic Institute. He served as a Payload Specialist on STS-83 (April 4–8, 1997) and STS-94, the Microgravity Science Laboratory Spacelab mission (July 1–17, 1997). These missions, combined, enabled him to orbit Earth 314 times.

Dr. Crouch's wife Anne is a Management Analyst in the Office of Earth Science.

Roger Crouch (right) at the Public Employees Roundtable Awards luncheon on July 25, with Kirke Harper, the Chair (left) and Marion Connell, Executive Director, Public Employees Roundtable (center).

Public Employees Roundtable is a private nonprofit, nonpartisan educational coalition of organizations representing nearly two million public employees nationwide.

Freedom To Manage (F2M) Task Force Sponsors First "Town Hall" Meeting

Now that suggestions from NASA's workforce are beginning to remove impediments to effective management across NASA, the F2M Task Force is taking their message on the road.

The first "Freedom to Manage Town Hall" meeting was held at the Glenn Research Center (GRC) on August 22. Judging by the enthusiastic response from our colleagues at GRC, the streamlined processes and improvements already generated by the F2M efforts are on the right track. However, it was obvious from the comments and suggestions that the Task Force needs to continue to gather even more creative ideas to enhance our Agency's performance.

The meeting at GRC is the first in a series of visits to Centers to inform them about F2M and generate more innovative ideas to increase NASA's benefit to the American public. After the meeting, a series of breakout sessions met to focus on specific areas including Human Resources, Procurement, and Financial Management.

Don Campbell, Director of Glenn Research Center, introduces F2M Co-Chairs Courtney Stadd and Greg Reck of NASA Headquarters during the F2M Town Hall meeting at GRC.

For more detailed information or to submit your own F2M ideas and comments, please visit the F2M Web site at www.f2m.NASA.gov

HED Activist Led Others To NASA Technology

Sarah Moody of Hampton, VA, who sought out NASA to help her nephew lead a more normal life, died last month of cancer at 63.

In 1987, Sarah, contacted Langley Research Center trying to help her nephew Stevie Roper who suffered from hypohidrotic ectodermal dysplasia (HED). Born with no sweat glands, his body temperature would rise dangerously high, and he often experienced a sudden need to cool down, making his life difficult.

To meet Stevie's needs, Langley staff identified a cooling vest which used NASA space suit technology. Sarah then persuaded the manufacturer to make a child-sized version for her nephew. On receiving the vest, Stevie's life changed overnight. Now he can play outside safely for 2 hours at a time.

A civic activist, Sarah was committed to helping others with HED. She founded the nationwide HED Foundation and raised funds to provide free cooling vests to hundreds of "her kids," travelling to their hometowns to present vests personally.

Sarah Moody with a child who received a cooling suit which made it possible to go outside during the day.

Later Sarah also teamed with the Johnson Space Center to guide the development of a new type of cooling suit which protects sensitive skin from the Sun's ultraviolet rays.

To learn more about Sarah Moody, see the August 23 issue of Langley's *Researcher News* at researchernews.larc.nasa.gov

Events Calendar

September

5 25th Anniversary of Voyager 1 Launch, 1977

10 35th Anniversary of Surveyor 5 Landing on the Moon, 1967

10-11 NASA Advisory Council Meeting, Pasadena, CA

12-15 36th Anniversary of Gemini 11 Mission, 1966

25 29th Anniversary of Completion of 59-day Skylab 3 Mission, 1973

O'Keefe To Speak To HQ Alumni

Administrator Sean O'Keefe will be the guest speaker at 17th Annual Headquarters Alumni Luncheon at the Officers' Club at Bolling Air Force Base on Thursday, October 3. A cash bar will be open from 11 a.m. to 12:15 p.m., with lunch served at 12:15 p.m.

Headquarters alumni desiring to attend should mail a check for $20 payable to Herbert Snyder, 11707 Kemp Mill Road, Silver Spring, MD 20902, by September 27, 2002. For more information, call Herbert Snyder, 301-649-1606.

Use the main gate to enter the Air Force base and have photo identification available.

obituaries

Patricia Sullivan, 66, a long-time NASA HQ employee and Federal employee for 42 years, died on August 18 after a courageous battle with cancer.

Patt retired from NASA in 1997. She lived in Lusby, MD, where she continued to celebrate life with her two grandchildren, Matthew and Ashlyn; her daughter Brenda; son-in-law Jim; son Mark; and her many friends and family. She was the regional coordinator for Meals on Wheels in Calvert County as well as being a driver. She also volunteered in the office of the Hospice of Calvert County.

Her proudest accomplishment while working at NASA was her participation as an administrative coordinator for the Presidential Commission on the Space Shuttle *Challenger* Accident from February to June 1986, where she met and worked with astronauts Neil Armstrong and Sally Ride.

Benedict B. Pagac, Sr., 79, a retired U.S. Army lieutenant colonel and NASA analyst, died of cancer on July 15 in Laurel, MD.

Pagac was born in Ashland, WI. He served 22 years in the U.S. Army in linguistics and counterintelligence before retiring in 1966. His assignments included duty in the former Czechoslovakia, as well as Germany and Japan. He also earned a business administration degree at the University of Maryland.

On joining NASA, he served as a management analyst and security classification specialist at Headquarters. After retiring from NASA in 1985, he worked for two years as a security classification manager for Systems Planning Corp., Arlington, VA.

He is survived by his wife of 52 years, Sonja Z. Pagac; his children Mary Anne Dettinger and Benedict B. Pagac, Jr.; five sisters; a brother; and two grandchildren.

Exchange Council News

http://www.hq.nasa.gov/exchange/

Cell Phone Day: Thursday, September 5.

Exchange Store Closed for Inventory: Monday, September 30.

Pop into the New FY: Tuesday, October 1.

Fall Golf Outing: Thursday, October 3, Andrews Air Force Base course.

Halloween Costume Contest: Thursday, October 31.

For more information on these events, visit the Exchange Council Events and Activities Web page shown above.

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